Expert Workshop „Mediterranean Solar Plan“

TERNA Planning and Grid Development Department Italian Operations

28-29 October 2008, Berlin, Germany

Security and continuity of supply

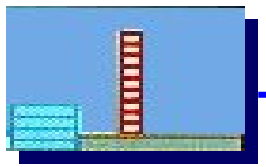
National electricity balance – year 2007

Net Production

Hydro source: 37,9 TWh

11%

Thermal source: 254,0 TWh

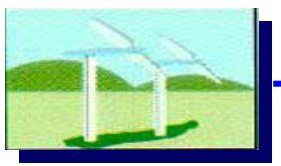


75%

Geothermal: 5,2 TWh

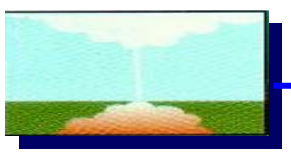
2%

Wind and Photovoltaic: 4,0 TWh



1%

Net imports: 46,3 TWh



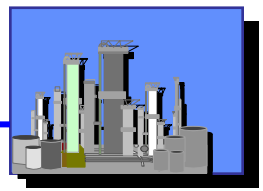
14%

Consumption *

Agricultural

2%

Industrial



49%

Household

21%

Service sector

28%

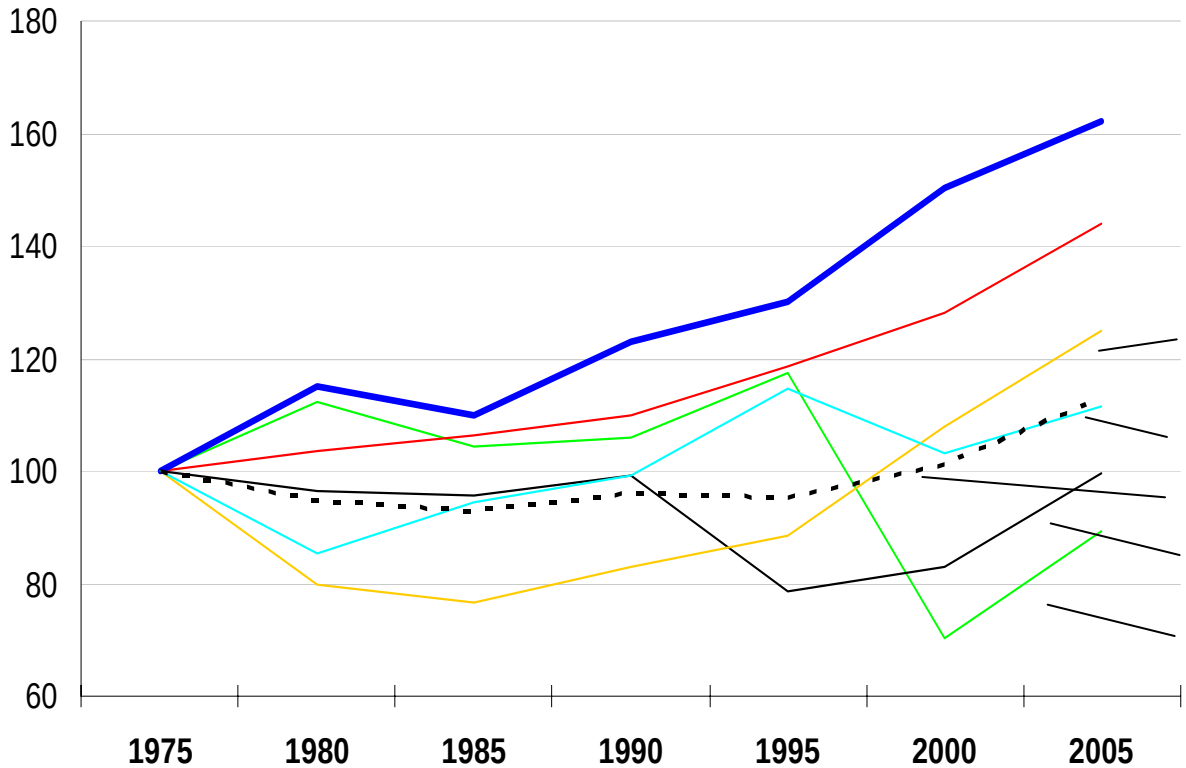
Total Electric Energy Consumption 339,9 TWh

**** pumping storage energy excluded: 7,7 TWh (2%)***

(1) Provisional data

Evolution of grid utilization index

380-220 kV network



	Consumption growth CAGR * * '75-'05	Grid growth* CAGR * * '75-'05
Italy	**2,9%**	**1,2%**
France	3,4	2,1
Iberica Pen.	3,5	2,7
Switzerland	2,1	1,8
avg UCTE	**2,9**	**2,5**
Germany	2,2	2,2
Benelux	3,2	3,6

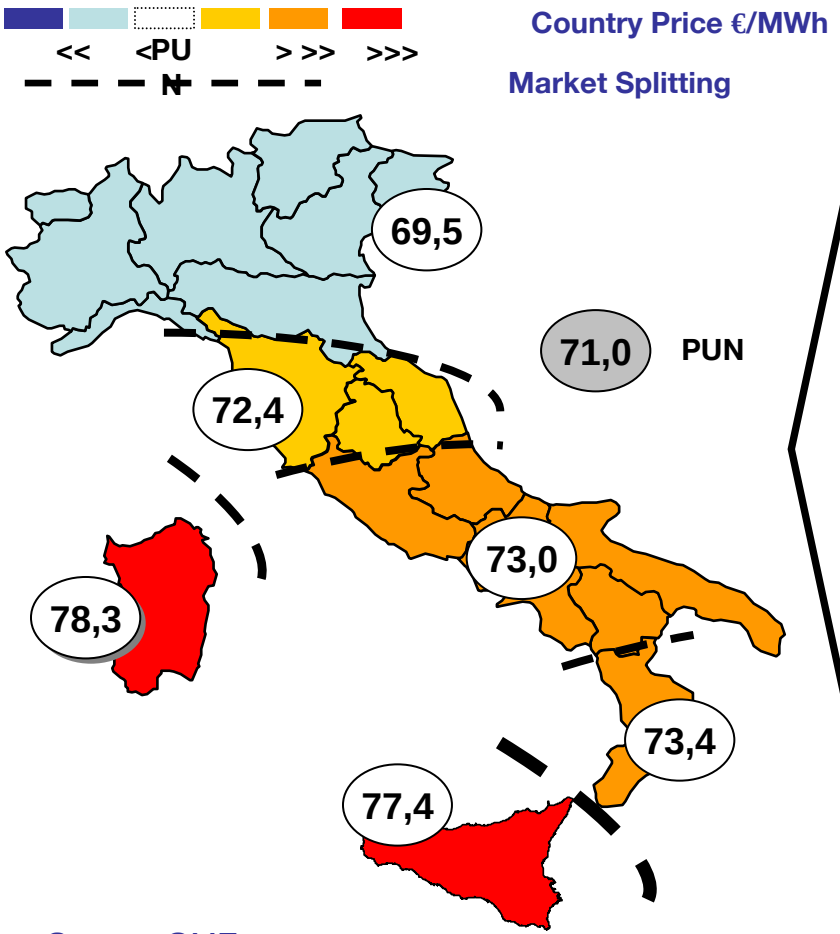
** km 380KV line + (Km 220kV line /√3) source: UCTE, Eurelectric*

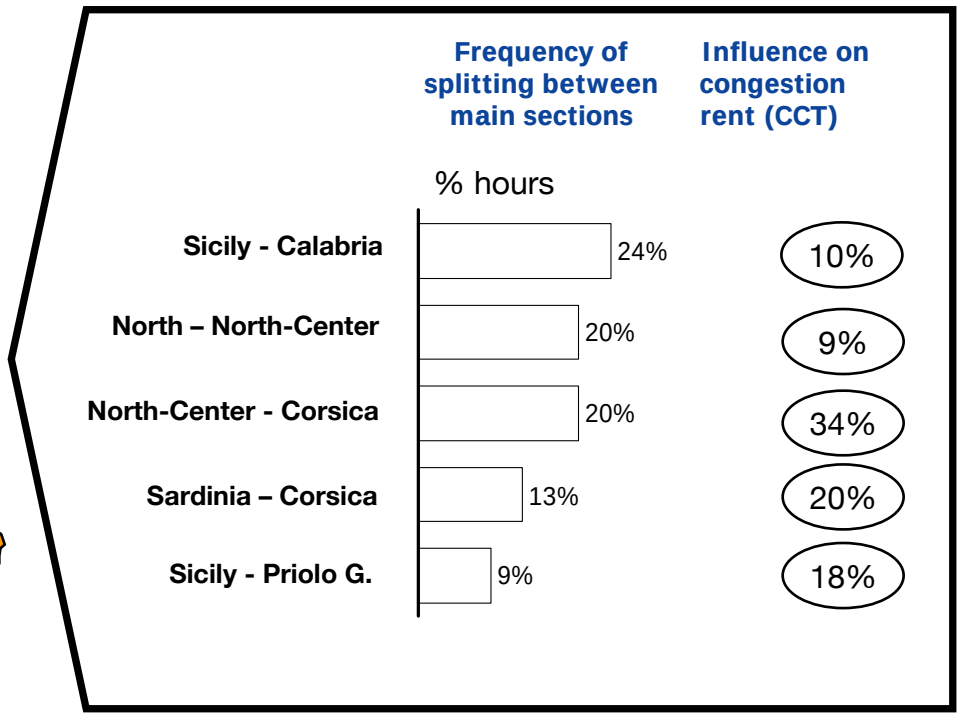
*** Compound annual growth rate*

source: UCTE, Eurelectric

Reducing congestion and increasing economical efficiency

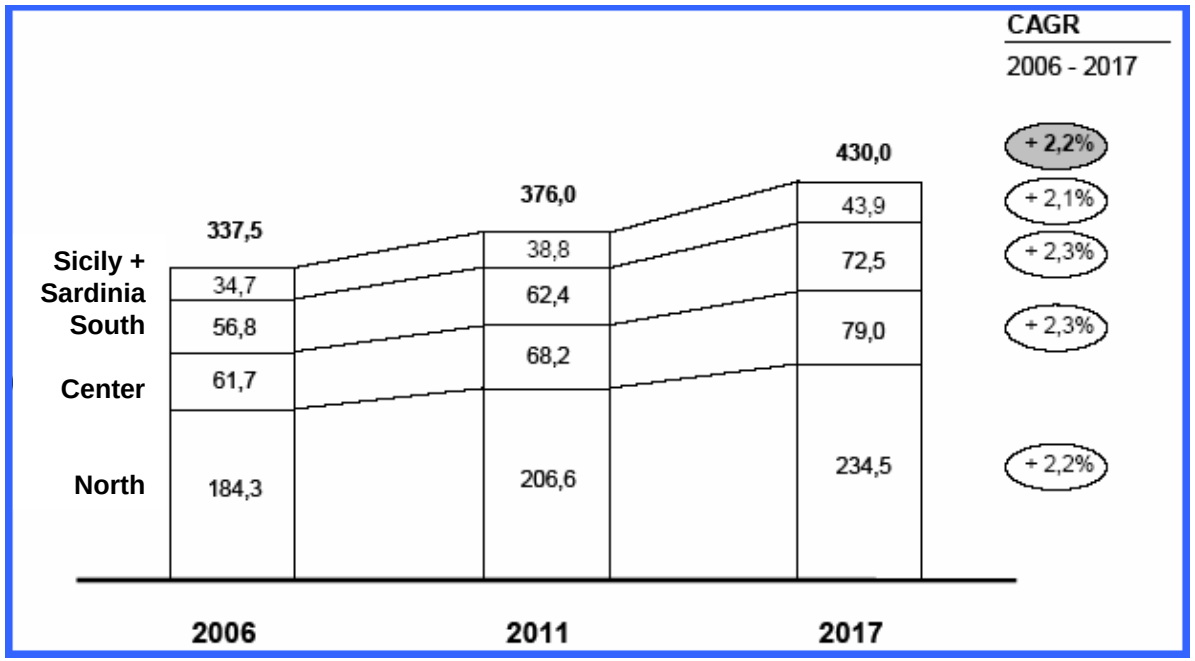
Major inter-areas congestions in D-1 market - hours % (June '06- June '07)





Source: GME

Electric energy demand – growth forecast

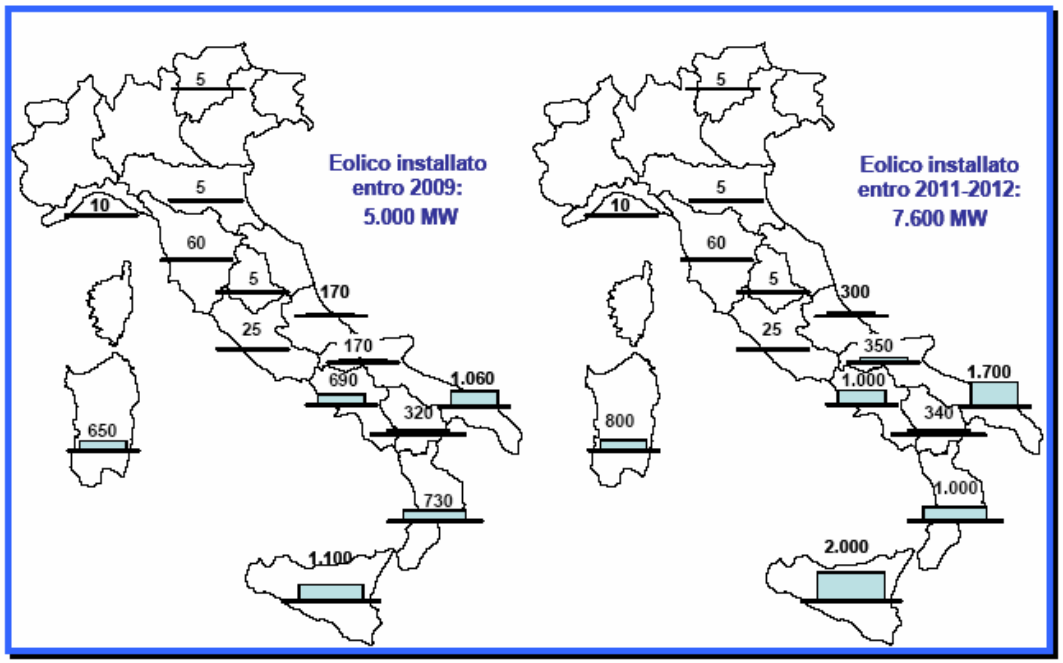


Provisional data

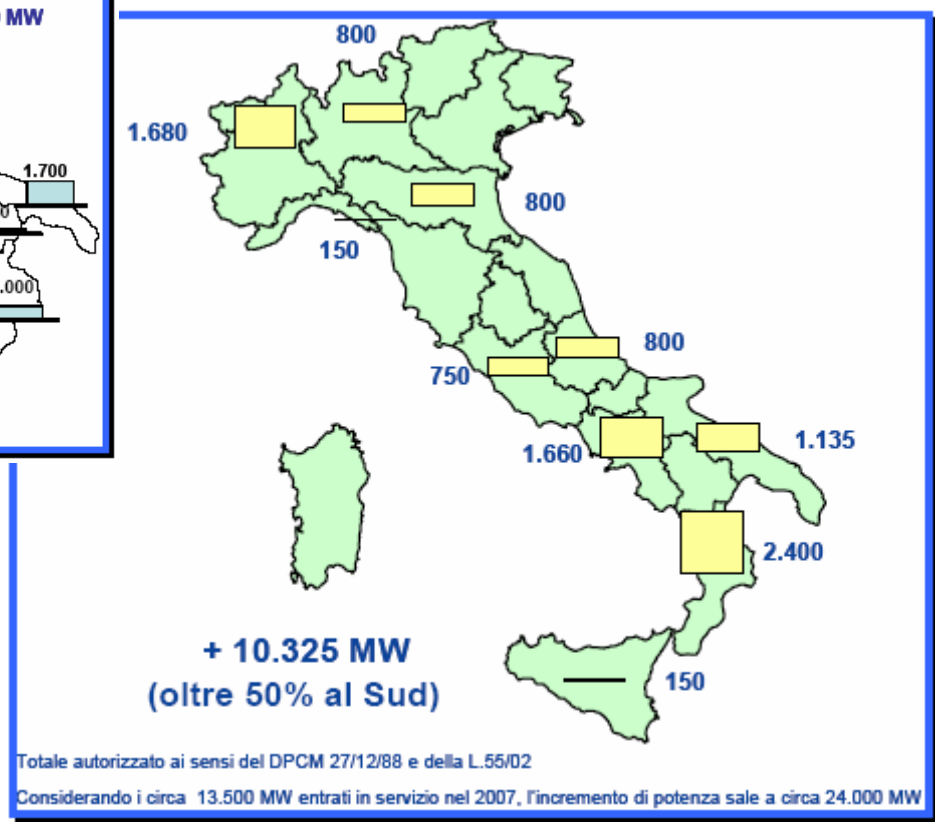
Year	Peak load
2006	55.619 MW
2007	56.810 MW
2011 scenario low/high	62.400/63.700 MW
2017 scenario low/high	72.000/75.000 MW

Connecting new generation to transmission grid

Forecast scenario 2008-2011
Thermal and Wind Power Plants



Wind Power Plants



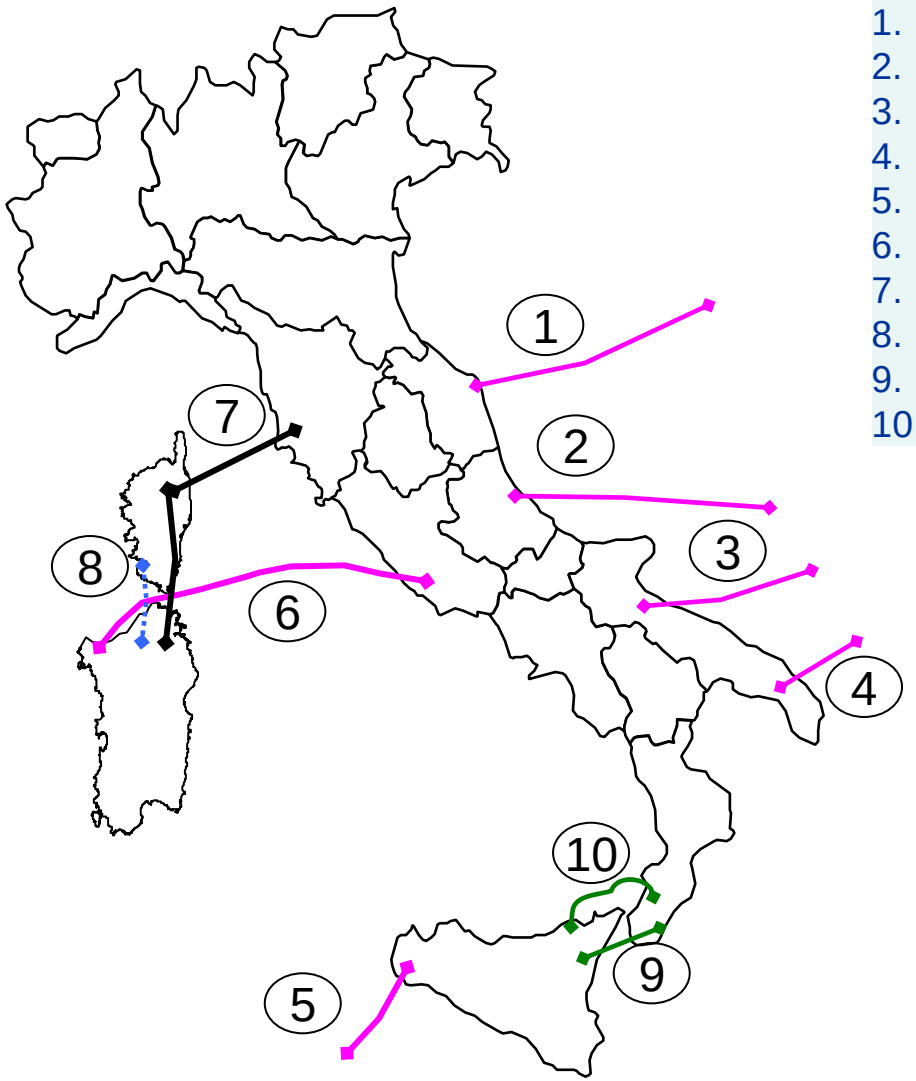
Thermal Power Plants

Transmission national Grid development

Objectives:

- **Security and continuity of supply**
- **Reducing congestion and increasing economical efficiency**
- **Quality of transmission service**
- **Connecting new generation to the transmission grid**
- **Development and reinforcement of tie lines with foreign countries**
- **Respecting environmental constraints**

Mediterranean Area
existing infrastructures and new developments



1. HVDC 1000 MW Italia – Croazia
2. HVDC 1000 MW Italia – Montenegro
3. HVDC 500/1000 MW Italia – Albania
4. HVDC 1000 MW Italia-Grecia - 2001
5. HVDC 1000 MW Italia – Tunisia
6. HVDC 1000 MW Sardegna – Italia – 2009/10
7. HVDC 300 MW SA.CO.I. 1967
8. HVAC 100 MW SAR.CO. 2005
9. HVAC 1000 MW Sicilia-Calabria 1985
10. HVAC 2000 MW Sicilia-Calabria

HVDC Italy-Algeria and Italy-Libia: feasibility studies completed.

HVDC/AC Italy-Malta: feasibility study under progress

400/500 kV dc cable

400 kV ac cable/overhead line

200 kV dc cable/overhead line

150 kV ac cable